OPERATOR'S MANUAL FOR BUMPER BOATS

Models:

FMR-25G-YS

DMR-25G-YS

- Operating Instructions
- Preparation
- Safety Concerns
- Maintenance

CAUTION: READ OPERATOR'S BUMPER BOAT AND HONDA'S OWNER'S MANUALS THOROUGHLY BEFORE STARTING OR OPERATING BUMPER BOATS!!!

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PREFACE

Ride Safety Limitations

Hazardous Environmental Conditions

Emergency Shut Down Procedure

Pool Requirements

Operation and Service Manual

IMPORTANT RIDE LIMITATIONS

- **Height Restrictions:**
  Operator: 48” Minimum
  Passenger(s): 32” Minimum

- **Number Of Boat Occupants Per Boat:**
  Standard Multiple Rider:
  (1) Operator
  (1) Passenger
  Deluxe Series Multiple Rider:
  (1) Operator
  (2) Passengers

- **Weight Restriction/ Total Rider Capacity:**
  300 Lbs. Maximum

- **Operator/ Passenger Seating:**
  Operator: Feet on floor and back to the seat.
  No sitting on edge of the seat.

  Passenger Seating:

  - In defined seat area
  - Back to the seat
  - Never on the Operator’s Lap
  - Never between Operator’s Legs
  - Never on Operator’s Leg

HAZARDOUS ENVIROMENTAL CONDITIONS THAT MANDATE THE SHUT DOWN OF THE BUMPER BOAT RIDE AND ACTIVITY

- Electrical Storms: Never operate Bumper Boats when Lightning is present or strong potential of developing soon.

- An unprotected electrical source is near the pool. All electrical must be protected by proper G.F.I. devices.

- Flammables or Explosives are present or near the pool.

- Engines are leaking or spilling gasoline or oil into the pool.

- Clarity of the water is obscured or cloudy. Must be able to see the bottom of the pool at all times.

- Unsafe Water Conditions are present.

    - Too much chemicals have been added to the water. (Excessive Chlorine)

    - Polluted water (Bacteria Concerns) present in the pool causing unsafe conditions.

Water has been subjected to gas or oil spillage.

EMERGENCY PROCEDURE FOR SHUTDOWN FOR ALL BUMPER BOATS WITH GASOLINE ENGINES

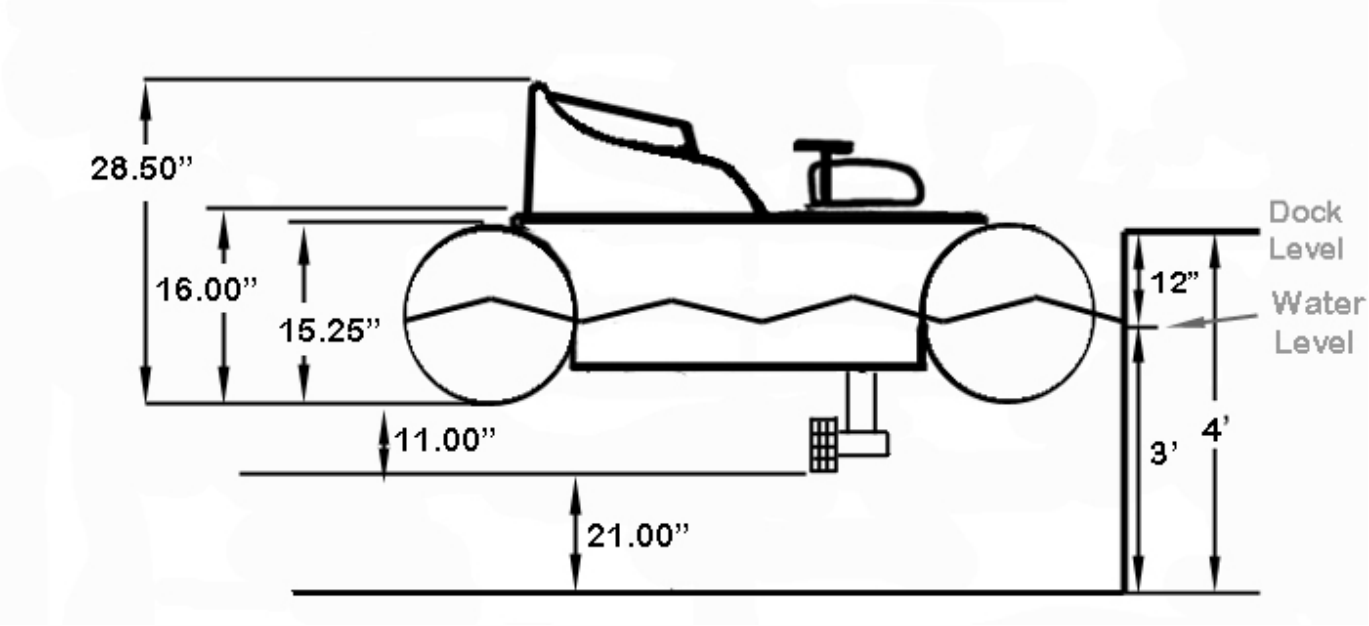
- Ride Attendants Must Be Familiar with location and functioning of the "Emergency Kill Switch".

- Procedure to shutdown a running engine.

  (A) Release the spring loaded throttle allowing the R.P.M.'s to drop.
  (B) Depress and Hold the Engine Kill Switch allowing the engine to shut down.
  (C) After engines are shut down and boats are secured to the dock, riders must be instructed and helped to leave the boat area immediately.

Models:
DMR-25G-Y

FMR-25G-Y



-POOL REQUIREMENTS-

Pool Sidewall 48”
Water Depth 36”

IMPORTANT INFORMATION

Method of transporting and handling the Yamaha engine is very **IMPORTANT!** Improper handling and transporting could affect long term operating success.

The Yamaha engine is best transported and handled while being kept in the upright position. **DO NOT LAY THE ENGINE ON ITS SIDE!!**

Laying the engine on its side can result in oil contamination into the carburetor. Oil can saturate the air cleaner element making it extremely hard to start the engine, if at all possible.

EXTREMELY IMPORTANT

It is extremely important that the gas shut off valve on the bottom of the large fuel tank is closed during any transporting of the engine. Failure to close the valve could cause excessive pressure on the needle valve of the carburetor. Excessive pressure could cause the needle valve to fail and the result would be that the engine would flood with gasoline. In addition to creating a very dangerous condition with the spilling of fuel, it will cause the engine not to start. The following conditions will more than likely occur if the needle valve does not hold.

- Gasoline will continue to overflow out of the carburetor.
- Spark plug will become Wet and Contaminated.
- Gasoline will enter the engine's crankcase.
- Air cleaner will become saturated.

REMEDIES THAT WILL BE NECESSARY TO START THE ENGINES

- Remove the fuel bowl to allow the float to reset the valve.
- Remove the spark plug for cleaning or replacing
- Remove the air cleaner element for cleaning or replacement.

NOTE: HEAVY RAINS, ESPECIALLY WITH DRIVING WINDS can present problems for initial startup of these engines after being exposed to these elements. It is advisable to cover engines at the end of the operating day or during periods of heavy rains.

CAUTION: Always make sure that the engines have completely cooled down before covering. FIRE HAZARDS ARE VERY POSSIBLE WHEN COVERING A HOT ENGINE!

PREPARATION PROCEDURE FOR BUMPER BOATS WITH YAMAHA ENGINES

IMPORTANT: Review the engine manufacture's operation manual completely before using this amusement device. Make certain the engine has been properly serviced according to manufacture's procedure before starting. Note: Engine "break-in" period is required; refer to engine's manual.

Step 1: Inflating Bumper Boat Tube

The floatation tube is made of very durable and tuff PVC material. Because of the heavy wall thickness and material hardness, minimum air pressure is required. The tube should be inflated so that it feels firm to the touch. Never inflate the tube so that it feels "rock hard". If a low range pressure gauge is available, it should be used to determine when the tube has been inflated to 2½ -3 psi. **NEVER INFLATE TO MORE THAN 3 psi AT ANY ONE TIME!!!**

Note: The nature of vinyl is to stretch to some degree based on the ambient temperature. After the initial inflating of the tube and the initial stretch, the air pressure will probably drop-off to 2 – 2 ½ psi which is fine for operating the bumper boats.

Note: When first inflating the tube it should be laid out without any folds. It is important when the air nozzle is being applied that the valve is not twisted and that there is some separation between the wall thicknesses of the tube. Separating the wall thicknesses will allow the air to go into the tube and not be stopped inside by the opposite side of the tube.

Step 2: Assembly of Fiberglass Boat to the Tube

The insertion of the boat body into the center of the PVC tube will be a tight fit (especially the first few times). The fit is designed to be tight because of the nature of vinyl to stretch somewhat after initial use.

Lay the floatation tube on a flat surface with the valve stem facing up. Squirt a soapy water mixture around and inside of the tube and around the bottom of the fiberglass boat. Position the boat in the center of the tube and apply equal pressure on both sides of the boat (requires a minimum of two people) at the same time, forcing the boat down into the tube.

Note: The straighter the boat is pushed into the tube, the easier it will be to accomplish this procedure. The boat should be settled into the tube until the rim rests against the tube.

Step 3: Installing The 2 ½ hp Yamaha Into The Foster Bumper Boat

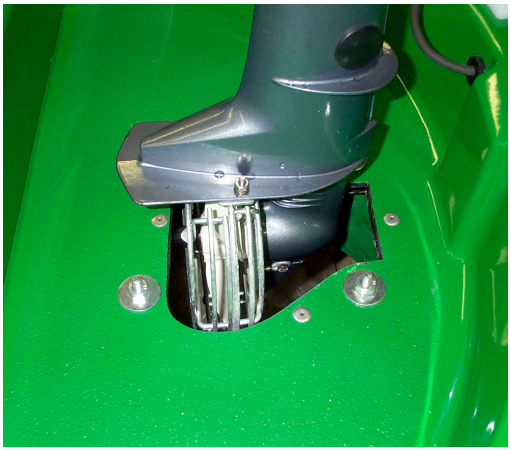


Fig # 1

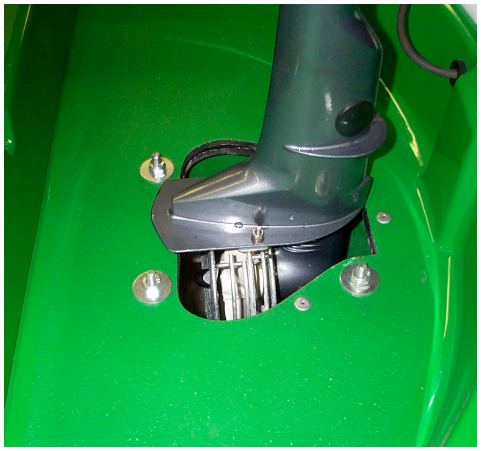
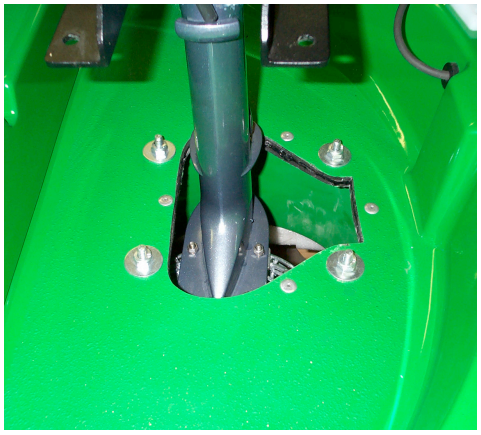


Fig # 2

Fig # 3



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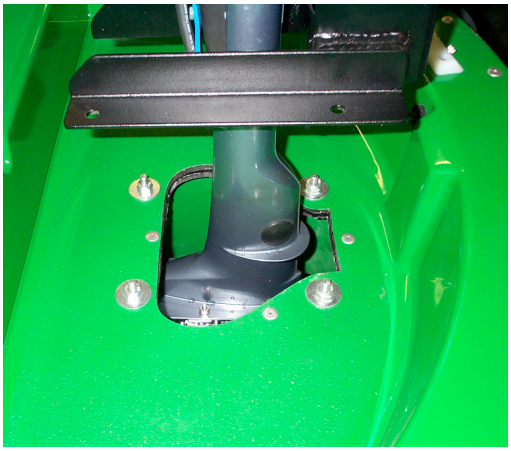

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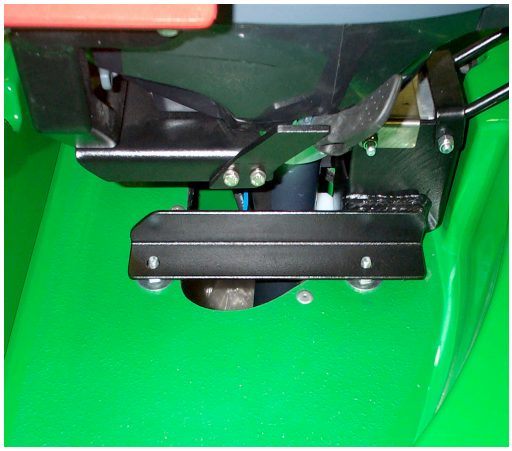

Fig # 6

Installing The 2 ½ hp Yamaha Into The Foster Bumper Boat, cont.

NOTE: The Yamaha Engine has a larger foot then many of the engines currently being used. It is necessary to follow the instructions to successfully install the Yamaha Engines into the Bumper Boats.

Step 1) Lower the bottom of the Yamaha through the floor cutout (refer to fig # 1). Stop when the guard assembly has been lowered through the hole and the "Drive Shaft Housing Fin" has touched the floor. (Refer to fig # 2)

Step 2) Rotate the complete engine so that the lower unit is positioned over the largest area of the cutout. (Refer to figure # 3)

Step 3) Lower the bottom of the engine so that the complete guard and fin area pass down below the floor of the boat. (Refer to figure # 4)

Step 4) Rotate the engine so that the propeller guard is now facing the seat of the boat. (Refer to figure # 5)

Step 5) Lower the engine mounting bracket, so that the holes align over the (4) mounting studs. NOTE: Mounting bracket is to sit on top of the 3/8" split lock washer. Secure the bracket with the (4) 3/8" 1 16 Heavy Wing Nuts. (Refer to figure # 6)

NOTE: Removing the engine will require the same steps to be followed, but in reverse order.

Step 3A: Retrofitting the Yamaha to Older Foster Boats

If the Yamaha is to be used in an older style Foster boat (prior to 1995), it will be necessary to increase the size of the cutout in the floor of the boat. Do this by trimming the fiberglass adequately to allow the lower unit to pass through the opening and permit for swiveling of the engine. Cutout templates are available from Foster Manufacturing.

Once the engine is secured to the boat, swivel the engine left and right. If complete movement is not possible, it will be necessary to trim the opening in the bottom of the boat enough to allow for the swivel of the engine without rubbing on the exhaust guard tube.

Step 4: Familiarization of the Yamaha Engine

CAUTION: Refer to the Yamaha Owner's Manual on the engine for proper preparation procedure and safe operating concerns before starting the engine.

Points of Concern

- Use unleaded gasoline with a pump octane rating of 86 or higher.
- Never use stale or contaminated gasoline or an oil/gasoline mixture. Fresh gasoline should always have a fuel stabilizer added as soon as the gasoline is received.
- Use a quality, 4 stroke automotive detergent oil with a listing in either the SF or SG category.

Note: Oil viscosity should be based on the typical ambient temperature range in which the engines will be operated.

Note: Gasoline containing alcohol has a tendency to absorb moisture from the air. Never use gasoline with more than 10% ethanol or 5% methanol.

Step 5: Servicing the Yamaha Engine

After the Owner's Manual has been thoroughly reviewed the engine should be serviced with proper oil for the crankcase and proper gasoline for the large auxiliary fuel tank.

CAUTION: **DO NOT OVERFILL** the large fuel tank. The "Full Fuel" level should allow at least 2" of space above the gasoline to the top of the tank. Wipe away any spillage immediately.

CAUTION: **NEVER, REPEAT, NEVER,** refuel the engine when it is "Hot". Always wait until it has cooled adequately before refueling. Potential of a **FIRE** or an **EXPLOSION** is possible when refueling a "Hot" engine.

Step 6: Providing Gas to the Engine

Open gas tank fuel valve (located at the bottom of the backside of the large fuel tank). Also, verify that the gas line fuel valve lever is to the open position (located at the carburetor).

Step 7: Starting the Engine

For the initial start up it might be necessary to move the choke lever to the "Closed" position. (Refer to Yamaha's Engine Manual to locate the choke.)

Pull the starter grip lightly until you feel resistance, then pull briskly. Return the starter grip gently.

If the choke lever was moved to the "Closed" position to start the engine, gradually move it to the "Open" position as the engine warms up.

Note: To start or restart a warm engine, leave the choke over in the "Open" position.

Step 8: Consult Yamaha Owner's Manual for Proper Break-in Procedure and Duration

Points of Concern:

- Be sure to lubricate swivel bracket assembly before using the boats. Use good "Water Resistant Grease". Rotate the engine at various intervals while adding grease to the swivel assembly.
- The initial break-in period is important to follow. Proper procedure can add longevity to the engine as well as helping to prevent premature engine failure. It is important that the engines are not run at "full speed" until they have been loosened up first.
- Use water-resistant grease or a silicone lubricant to periodically lubricate the throttle cable and throttle slide assembly on the carburetor to assure smooth travel.
- Be certain to always have all guards in place and never operate the engines without having complete engine shrouds in place.
- Routinely check all fasteners. Tighten if necessary. When removing fasteners be sure to re-install with a thread adhesive "Loctite".
- Routinely check wear characteristics of all bearings and bushings. Replace when excessive wear is present causing loose fits and excessive movement.

MAINTENANCE PROCEDURE AND CONCERNS FOR PROP/JET

Maintaining the Yamaha

To assure that expected longevity and performance is received from the Honda engine, it is advisable that you familiarize yourself with the Owner's Manual. Consult the manual for selection of gasoline and proper oil selection.

Maintaining the Performance of the Yamaha

Although the Yamaha is very simple in design, it requires routine inspection. The routine inspection procedure should be followed to assure good performance and minimal downtime.

Reference Upper Unit Assembly

1. Inspect the throttle assembly to assure smooth functioning. Periodically, apply water-resistant grease to the cable inner wire, throttle anchor rod and trigger rod guides.
   Note: Be certain that the plastic tie is always in place to keep the throttle cable inner wire from coming out of the anchor rod.

2. Routinely check all fasteners, tighten if necessary.
   CAUTION: When removing fasteners be certain to re-install with a thread adhesive "Loctite".

3. Routine inspection of all engine shrouds to assure that they are properly installed and secured.
   Note: Never operate the Yamaha without the engine shroud and guards properly installed. Without the shroud in place, there is the possibility of **SEVER BURNS AND GREAT DANGER.**

4. Periodically check that the gas valve is completely open. Because of it's concealed position under the tank it is often ignored. Sometimes when the engine is not running properly from lack of gas it is because this valve is restricting flow.

   Note: There are two gas fuel valves that must be maintained open. First valve is located on the Yamaha engine (refer to Yamaha's Owner Manual). Second valve is located on the inside bottom side of the large fuel tank. (To open, turn valve counter-clockwise.)

   Note: The large fuel tank will not empty completely before the engine stalls out from the lack of gas. The characteristic of the tank is that approximately 2" of fuel will remain in the tank because of the mounting level of the tank. If you look into the tank you will notice a raised shelf area directly below the filler cap. The raised shelf area is the indicator of the fuel level. When the shelf is not covered with 1" of gas, the tank is empty and needs to be refueled.

Reference Swivel Bracket Assembly & Steering Bushings

1. Routine inspection of the swivel bracket assembly. Inspect the four (4) socket head cap screws making certain they are tight.

2. Routinely grease the swivel bracket to avoid premature wear on the steering bushings. Replace the bushings when they show excessive wear. Allowing excessive wear on the bushings without replacement will cause damage to the swivel bracket itself as well as damage and wear to other components.

Reference Lower Unit Assembly

1. Inspect the propeller guard assembly to make certain it is secure to the gear case.

2. Inspection of zinc anode should be done periodically. Replace the anode when signs of significant deterioration are present.

3. Periodically inspect the water discharge for the Yamaha cooling system. Note: Whenever the Engine is running there must be a sign of water discharge.

Maintaining Proper Engine Speed

It is important to periodically check engine's operating R.P.M.'s in both "idle and full" speed conditions.

Note: Speeds must be checked under a load condition. Propeller must be in the water.

Specifications for Yamaha: Idle Speed 2100-2200 R.P.M.'s
Full Load Speed 3600-3700 R.P.M.'s

Note: Engine speed is changed at the throttle trigger. Adjusting the position of the 3/8"-16 locknuts will control both high and low speed.

Note: Proper engine speed is very important to the performance of the Yamaha. Verify both high/low R.P.M. settings by viewing the onboard tachometer.

Note: After the break-in period it will be necessary to adjust the R.P.M.'s according to the recommended specifications.

Note: After initial use the throttle cable might stretch causing some loss of the preset R.P.M.'s. Retensioning the cable to bring the operating R.P.M.s back to the proper values is done by adjusting the cable anchor rod. The stop nuts will control the length of movement for the high/low characteristics. Verify the speeds with a tachometer.

Procedure to Follow for Re-Tensioning the Cable

A. To increase the low speed idle, turn the hex stop nut clockwise causing the throttle cable rod to pull more tension on the cable.

B. To decrease the low speed idle, turn the hex stop nut counter-clockwise causing the throttle cable rod to reduce some of the tension on the cable.

C. To increase the high-speed setting, turn the upper limit hex nut counter-clockwise increasing the amount of travel for the throttle cable rod before it stops.

D. To decrease the high-speed setting, turn the upper limit hex nut clockwise decreasing the amount of travel for the throttle cable rod before it stops.

TROUBLE SHOOTING

Problem: Engine will not start or starts hard when cold.

Possible Cause	Corrective Action
❖ Fuel contaminants (water, dirt, etc.) in fuel line.	❖ Check fuel and replace if necessary.
❖ Fuel tank gas cap restricted.	❖ Clean or replace gas cap.
❖ Restricted fuel line or fuel shut-off valves.	❖ Replace or clean line or shut-off valve.
❖ Low fuel level in tank.	❖ Fill tank to proper level.
❖ Throttle cable not properly attached.	❖ Connect and re-tension cable to proper position.
❖ Low ambient temperature.	❖ Requires manually closing the choke.
❖ Faulty kill switch.	❖ Inspect that switch is functioning as “normally open”. If not, replace

Problem: Engine turns over very hard when starting.

Possible Cause	Corrective Action
❖ Restriction of movement at the propeller shaft.	❖ Remove any debris that might be wrapped around the shaft.
❖ Propeller rubbing against the guard.	❖ Reposition or straighten guard for clearance.
❖ Failed bearings in lower unit.	❖ Inspect and replace defective bearings.
❖ Damaged or mis-aligned gears.	❖ Replace or re-position to proper location.

Problem: Diminished speed or no power.

Possible Cause	Corrective Action
❖ Inadequate throttle movement.	❖ Re-tension or replace throttle cable.
❖ Restriction of inlet side of propeller guard.	❖ Clean propeller guard screen.
❖ Worn or damaged propeller.	❖ Replace propeller.
❖ Inadequate speed settings.	❖ Verify with a tachometer. Set according to specifications.

OPERATING PROCEDURE FOR BUMPER BOATS

IMPORTANT: Review the engine manufacturer's operation manual completely before using this amusement device. Make certain the engine has been properly serviced according to manufacturer's procedure before starting. Note: Engine "break-in" period is required; refer to engine's manual.

CAUTION: All attendants involved in ride operation should be well informed and familiar with "Rules of Safe Operation," engine characteristics and control functions of the bumper boats.

All boats should go through a Daily Checklist for inspection prior to making the boats available to the customers. Record keeping is important.

Step 1: The attendant should start the engine. Never allow the customers to start the engine. (Refer to starting the engine section of this manual.)

Step 2: Familiarize the rider to the two basic controls.
Throttle: Speed control is done using the spring loaded pull throttle grip. Throttle must be maintained. Release of the grip will cause the engine to go down to an idle speed.
Stop or Kill Switch: The Yamaha engine is set up with a stop switch. The main purpose of the stop switch is to turn off the engine when the ride is complete or for emergency conditions. When the switch is depressed and maintained, the engine will shut down.

Step 3: Loading assistance of riders should be offered to avoid accidents due to slipping or falling. Before the ride starts the riders must be seated completely and "Rules of Safe Operation: and instructions should be thoroughly reviewed with the riders. Note: If the rider(s) height is less than 12" greater than the water depth, a floatation life vest should be supplied to riders before they are allowed on the platform.

Step 4: When the rider is familiar with the boat's operational functions and "ride rules," the engine may be started. (Refer to engine's manual for proper starting procedure.)

Step 5: Attendant should untie and release boats from the "loading platform" when the ride cycle is started.

Note: For safety reasons all riders should be seated completely before any boats are released.

Note: Bumper boats must be monitored at all times by ride attendant(s).

Step 6: When the ride cycle is complete, the rider(s) should be directed to return to available boat slips. Boats should be securely tied to “loading platform” by ride attendant(s).

Note: All boats should be tied to loading platform before any rider(s) are allowed to depart.

Step 7: Ride attendant should shut-off the engine and offer assistance to the departing riders to prevent the possibility of accidental slipping and falling.

Step 8: Ride attendant(s) should supervise that there are orderly and safe departures of all riders that have completed their rides before allowing any loading of boats with new riders.

MAINTENANCE PROCEDURE FOR BUMPER BOATS

- Engine: Daily, routine and scheduled inspections and maintenance procedures are outlined in detail, consult the engine manufacturer's manual. (Refer to specified manual.)

Daily Inspection Required

- Floatation Tube: Tube should be visually inspected for cuts, leaks or potential leaks. Tubes are made of vinyl and should be cleaned frequently and a vinyl protector applied to protect the tube and keep it from getting hard.

- Fiberglass Boat: Visual inspection should be done that all fasteners are secure. Visual inspection as to the fiberglass structure to identify any cracks or rough surface areas that rider(s) might come into contact while in use of the boat.

- Mounts and Controls: Welds should be inspected (i.e.) handle bar, mounting bracket and guards. Fasteners should be checked for proper torque. Operational controls should be checked for proper functioning (i.e.) spring loaded throttle, kill switch and swivel bracket assembly. Greasing of swivel bracket. Use water resistant type grease.

Note: Routinely inspect that propeller guards are in place. **NEVER … NEVER OPERATE BUMPER BOATS WITHOUT PROPELLER GUARDS**.

Bumper Boat Checklist

Pre-Opening Inspection

Recorded Record for Week Ending _____

	BOATS	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1.	Check engine oil and fill to proper level.							
2.	Inspect fuel system; check for any signs of leakage at the cap, tank, fittings or fuel line.							
3.	Properly fill fuel tank after verifying there are no leakage problems.							
4.	Verify complete propeller guard assembly is in place and properly secured.							
5.	Inspect fasteners and fittings for looseness. Tighten properly if required.							
6.	Inspect swivel bracket assembly to verify it is secure and lubricated.							
7.	Inspect fastening wing nuts that secure mounting bracket to the floor of the boat. Make sure they are tight.							
8.	Inspect throttle cable for smooth operation. Lubricate it if necessary.							
9.	Inspect for proper assembly and integrity of all guards for safe operating conditions.							
10.	Inspect Bumper Boat tube condition for proper floatation. Observe for signs of leakage.							
11.	Clean engine, boat and tube to assure a clean safe ride for all customers.							
12.	Start the engine and test ride the boat to verify proper operating conditions.							
	POOL AND SURROUNDINGS							
1.	Check water chemistry. Inspect for harmful water conditions.							
2.	Inspect the condition of rope ties for docking boats.							
3.	Verify the condition and stability of handrails.							
4.	Verify that “Rules of Safe Operation” are properly positioned and visible.							
5.	Check fire extinguishers and verify proper placements.							
6.	Check integrity of fences and gates for proper functioning.							
7.	If operating instructions and “Rules of Safe Operation” are delivered to customers via a recording, verify proper functioning and clarity.							
8.	Remove all flammable materials from ride area.							

Note: These are basic concerns that should be addressed on a routine schedule. Each operation, depending on its own requirements should add to, but not eliminate from this checklist.

Bumper Boats

Rules for Safe Operation

- Thoroughly read and understand operator manuals before operating Bumper Boats.
- Never allow children or adults lacking proper instructions to operate Bumper Boats.
- Take precautions against fire. Fire fighting equipment should be readily accessible at the Bumper Boat activity.
- Handle fuel with care. Never fill the engine's fuel tank while the engine is running or hot.
- Never refuel the engines when riders are in the boats or near the refueling area.
- Wipe clean any spilled fuel immediately. Remove unused fuel from the fueling area before starting the Bumper Boat engine.
- Never operate Bumper Boat engines in an enclosed area. Exhaust gasses contain carbon monoxide. The gas can be deadly when inhaled.
- Operating an engine at excessive speeds increases the hazard of personal injury. Do not tamper with parts, which may increase governed speed.
- Always remove the spark plug or spark plug wire before working on the engine. This will prevent accidental starting of the engine.
- Make a routine check that all nuts, bolts, screws and fittings are tight.
- Never operate the engine with any of the guards missing or incomplete.
- Never allow observers, swimmers or by-standers to be in the water while Bumper Boats are operating.
- Never allow multiple riders in Bumper Boats that are not designed for more than one rider.
- Operators of Bumper Boats should be tall enough to sit completely back in the seat with their feet on the floor of the boat.
- When the rider's height is not at least 12" greater than the water's depth, a life preserver should be provided.
- Never allow "Standing" or "Kneeling" in the Bumper Boats.
- Unusual or excessive noise should be checked immediately. Shut-off the engine an review all components.
- Maximum rider weight capacity is 300 pounds.
- No food or drinks are allowed while in the Bumper Boats.
- No smoking is allowed while in or around the Bumper Boats.
- Signs must be posted stating that riders use the Bumper Boats at their own risk.
- Propeller guards must always be in place when using Bumper Boats. If they are in the ride area, they must have complete guard assemblies in place.
- Signs should be posted cautioning persons who are pregnant or have experienced back or neck problems that they should not ride in the Bumper Boats. People with heart conditions should also not ride in Bumper Boats.
- Always record and keep complete records and accident reports when they involve personal injury. No matter how slight the injury seems at the time, it could be crucial at a later date.